



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S) : P. Simmons, et al.
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FOR : Mesenchymal Precursor Cell
GROUP ART UNIT : 1625
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Commissioner for Patents
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15 **Amendment of Claims in Application**

Prior to examining this application, please amend the claims as follows:

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In the Claims:

Cancel claims 1-24, 29-30, 32-33, 35-39 and 46 and amend the remaining claims as follows:

1-24. Cancelled.

25. (Currently amended) An enriched cell population wherein at least 1% of the cells are
5 ~~mesenchymal precursor cells that are colony forming capable of giving rise to colony~~
~~forming units-fibroblast (CFU-F).~~

26. (Currently amended) An enriched cell population as in claim 25 wherein the at least
1% of cells carry at least two markers selected from [a] the group of surface markers
10 specific for mesenchymal precursor cells [including] consisting of LFA-3, THY-1,
antigen identified by STRO-1, VCAM-1, ICAM-1, PECAM-1, P-selectin, L-selectin,
CD49b/CD29, CD49c/CD29, CD49d/CD29, CD29, CD18, CD61, 6-19,
thrombomodulin, CD10, CD13, integrin beta, STRO-2, CD146, and SCF or any
combination thereof.

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27. (Currently amended) An enriched cell population as in claim 26 wherein the at
least 1% of cells carry the antigen identified by STRO-1 and VCAM-1.

28. (Currently amended) An enriched cell population as in claim 25 wherein at least
20 5% of the cells are ~~mesenchymal precursor cells that are colony forming capable of~~
~~giving rise to colony forming units-fibroblast (CFU-F).~~

Claims 29-30. Cancelled .

25 31. (Currently amended) An enriched cell population as in claim 25 wherein at least
10% of the cells are ~~mesenchymal precursor cells that are colony forming capable of~~
~~giving rise to colony forming units-fibroblast (CFU-F).~~

Claims 32-33. Cancelled.

30 34. (Currently amended) An enriched cell population as in claim 25 wherein at least
40% of the cells are [mesenchymal precursor cells that are colony forming] capable of
giving rise to colony forming units-fibroblast (CFU-F).

35 Claims 35-39. Cancelled.

40. (Currently amended) An enriched population of cells as in ~~either of~~ claim 25 or
~~claim 37~~ wherein a proportion of the cells are capable of differentiation into at least two
committed cell types selected from the group including adipose, areolar, osseous,
5 cartilaginous, elastic and fibrous connective tissue.
41. (Currently amended) An enriched population of cells as in ~~either of~~ claim 25 or
~~claim 37~~ wherein the enriched population is suitable for seeding onto a vehicle for
implantation to assist in bone growth.
- 10
42. (Currently amended) An enriched population of cells as in ~~either of~~ claim 25 or
~~claim 37~~ wherein the enriched population has an exogenous nucleic acid transformed in
to it so that the population may be introduced into the body of a patient to treat a
disease or condition.
- 15
43. (Currently amended) An enriched population of cells as in ~~either of~~ claim 25 or
~~claim 37~~ wherein the enriched population has an exogenous nucleic acid that expresses
a therapeutic agent transformed in to it so that the population may be introduced into
the body of a patient to release the therapeutic agent.
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44. (Currently amended) An enriched population of cells as in ~~either of~~ claim 25 or
~~claim 37~~ wherein the enriched population is used to augment bone marrow
transplantation.
- 25 45. (Original) A composition including the enriched population of claim 25.
46. Cancelled.
47. (Currently amended) A composition as in ~~either of~~ claim 45 or ~~46~~ wherein the
30 composition is preadsorbed onto ceramic vehicles that are precoated with fibronectin
and are suitable for implantation to augment bone marrow transplantation.
48. (Currently amended) A composition as in ~~either of~~ claim 45 or ~~46~~ wherein the
composition is suitable for use in augmenting bone marrow transplantation.
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49. (Original) A composition as in claim 48 wherein the composition also includes

haemopoietic cells.

50. (Currently amended) A composition as in ~~either of~~ claim 45 or 46 wherein the population has an exogenous nucleic acid transformed in to it so that the composition 5 may be introduced into the body of a patient to treat a disease or condition.

51. (Currently amended) A composition as in ~~either of~~ claim 45 or 46 wherein the population has an exogenous nucleic acid that expresses a therapeutic agent transformed in to it so that the composition may be introduced into the body of a patient 10 to release the therapeutic agent.

52. (New) An enriched cell population as in claim 25 wherein the at least 1% of cells are mesenchymal precursor cells that are positive for one or more markers selected from the group consisting of STRO-1^{bright}, VCAM-1^{bright}, THY-1^{bright}, CD146^{bright} and STRO-2^{bright}.

15 53. (New) An enriched cell population as in claim 52 wherein the STRO-1^{bright} cells carry a high copy number of an antigen identified by STRO-1.

20 54. (New) An enriched cell population as in claim 52 wherein the VCAM-1^{bright} cells carry a high copy number of an antigen identified by VCAM-1.

55. (New) An enriched cell population as in claim 52 wherein the THY-1^{bright} cells carry a high copy number of an antigen identified by THY-1.

25 56. (New) An enriched cell population as in claim 52 wherein the CD146^{bright} cells carry a high copy number of an antigen identified by CD146.

57. (New) An enriched cell population as in claim 52 wherein the STRO-2^{bright} cells carry a high copy number of an antigen identified by STRO-2.

30 58. (New) An enriched cell population as in claim 25 wherein the STRO-1^{bright} cells are negative for at least one marker selected from the group consisting of CBFA-1, collagen type II, PPAR γ 2, and glycophorin A.